REMARKS

Claims 1-4 and 7-14 currently appear in this application. The Office Action of August 4, 2006, has been carefully studied. These claims define novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicant respectfully requests favorable reconsideration, entry of the present amendment, and formal allowance of the claims.

Rejections under 35 U.S.C. 112

Claims 1-5, 7-12 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

This rejection is respectfully traversed. The claims have been amended to recite that the recording medium includes pits with a pit/groove width of below 1 micron/pit at a track pitch of below 1 micron. Support for this amendment can be found in the specification as filed at page 37, first paragraph and page 38, second paragraph.

Although the Examiner has indicated that the size of the medium for the claims should be specified to be congruent with the arguments, it is respectfully submitted that what is important in an optical recording medium is not the size of

the medium but the recording density. Accordingly, claims 1 and 8 have been amended to make it clear that a recording capacity of over 15 GB per side, when formed onto a disk 12 cm in diameter, is attached "by forming minute pits with a pit/groove width of below 1 micron/pit at a track pitch of below 1 micron/meter."

Claim Objections

Claims 5 and 12 are objected to under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claims 5 and 12 have been cancelled, rendering this objection now moot.

Art Rejections

Claims 1, 2, 5 and 7 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Oba et al., JP 60-083236.

This rejection is respectfully traversed. The claims have been amended in accordance with the Examiner's helpful comments in the paragraph bridging pages 4 and 5 of the Office Action. In accordance with these suggestions, claims 1 and 8 have been amended to recite the pit/groove width and the track pitch of the medium.

Claims 1, 4, 5 and 7 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Okamoto et al., JP 09-277703.

This rejection is respectfully traversed. The optical recording medium of Okamoto uses an organic dye having an absorption maximum at a wavelength of 586 nm and uses a laser beam having an oscillation wavelength of 640 nm for writing information. In contrast thereto, the optical recording medium claimed herein uses a laser with an oscillation wavelength of about 405 nm and an organic dye compound which has an absorption maximum at a wavelength longer than the oscillation wavelength of the laser.

Claims 1, 3, 5 and 7 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Shinkai et al.'656.

This rejection is respectfully traversed. The optical recording medium of Shinkai uses two kinds of lasers having oscillation wavelengths in the range of about 630 to 680 nm to write information. Contrary to this, an optical recording medium as claimed herein uses a laser with an oscillation wavelength of about 405 nm to write information. The pits of the presently claimed optical recording medium have been recited, and it is respectfully submitted that the lasers used in Shinkai would be inoperable in the recording medium claimed herein. Therefore, it is respectfully

submitted that the herein claimed recording medium is not at all the same as that of Shinkai.

Shinkai discloses in Example 3 an optical recording medium which uses "dye B-3", as indicated by the Examiner. However, the optical recording medium disclosed in Example 3 uses a laser having an oscillation wavelength of 789 nm, both to write and to read information. On the other hand, the absorption maximum of the dye B-3 is 575 nm (see column 73, lines 18-20), which is considerably shorter than the oscillation wavelength of the laser. In this regard, the optical recording medium disclosed in Shinkai is clearly distinguishable from that claimed herein, in which the dye has an absorption maximum at a wavelength longer than the oscillation wavelength of a laser.

Claims 1, 2, 5-9, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namba et al., JP 60-204396.

This rejection is respectfully traversed. Contrary to the Examiner's assertion that Namba discloses an optical recording medium that uses a laser having an oscillation wavelength of 40 nm shorter than the absorption maximum of the dye, Namba does not disclose any compounds other than D1 to D79 that have an absorption maximum in the range of 830-789

nm, or in the range of 710 - 820 nm (*i.e.*, oscillation wavelength of laser 750 nm - 40 nm to 740 nm + 70 nm).

Since Namba discloses an optical recording medium that uses dye compounds having an absorption maximum in the range of λ_R-410 nm to 1 λ_R + 70 nm (λ is an oscillation wavelength of a laser).

Since Namba discloses an optical recording medium which uses dye compounds having an absorption maximum in the range of λ_R-40 nm to λ_R + 70 nm, dyes D1 to D79 are considered to be those which are not applicable to an optical recording medium using a HeCd laser having an oscillation wavelength of 442 nm or 325 nm, because the dye compounds must have an absorption maximum in the range of 402 nm (*i.e.*, 442 nm - 40 nm) to 512 nm (*i.e.*, 442 nm + 70 nm) or 285 nm (*i.e.*, 325 nm - 40 nm) to 395 nm (*i.e.*, 325 nm + 70 nm).

From this it is clear that Namba does not actually disclose an optical recording medium using an HeCd laser having an oscillation wavelength of 442 nm or 325 nm, even if Namba alludes to it in the specification.

Claims 1-5, 7-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Namba et al., Oba et al., Okamoto et al., or Shinkai et al. in view of Ootaguro et al'882 and Namba et al.'231.

This rejection is respectfully traversed. None of the cited references discloses or suggests the optical recording medium claimed herein.

Ootaguro disclose a compound, 4-N,N-diethylamino-4'-nitrosodiphenylamine, that has an absorption maximum of 440 nm. However, there is nothing in Ootaguro that even suggests that this compound can be used in an optical recording medium that uses a laser having an oscillation wavelength of 405 nm. No one skilled in the art would have expected that the recording capacity of more than 15 GB could be obtained when the Ootaguro compound is used in an optical reproducing medium in the form of a 12 cm diameter disk with a pit/groove width and a track pitch as claimed in claim 1.

Namba discloses an optical recording medium which uses a laser having an oscillation wavelength of 325 nm, 442 nm, 488 nm, 514.5 (515) nm or 633 nm. However, there is nothing in Namba that suggests an optical medium as claimed herein.

Even though the references may claim mixtures of dyes to extend the spectral response of the optical recording material, there is nothing in any of the cited references that teaches or suggests an optical recording medium having the physical properties as claimed in the instant application.

Claims 1-5, 7-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Namba et al., Oba et al., Okamoto et al., or Shinkai et al. in view of Ootaguro et al. and Namba et al.'231, further in view of Nee'811 combined with Hamer, "The Cyanine Dyes and Related Compound," pp. 244-269, 274-279 and 398-433 (1964), Hudlitch et al.'584, Saito et al.'089, JP 64-040399, JP 03009884, JP 10-119434 or JP 03-032884.

This rejection is respectfully traversed. The Examiner has kindly suggested that this rejection could be overcome by reciting that the medium is on a grooved substrate. Claim 1 has been amended to recite that the substrate is grooved, and the size of the grooves.

Claims 1, 2, 4, 5, 8, 9, 11 and 12 are rejected under 35 U.S.C. 102(e) as being fully anticipated by Saito et al. '494.

This rejection is respectfully traversed. Saito recites an optical recording medium formed in a 12 cm diameter disk having **pregroove** width of 0.3 microns with a pitch of 0.5 microns, as found at page 12, paragraph 0083. The pregroove is a form on the disk before information is written on a disk by a laser. The information is written in the pregroove having the width of 0.3 microns and pitch of 0.6 microns. In contrast thereto, in the medium claimed herein, information is

written on the disk by forming minute pits with a pit/groove width of below 1 micron/pit at a track pitch of below 1 micron. It is clear that the disk of Saito is not at all the same as the herein claimed medium.

Furthermore, Saito never recites that the compounds used in the examples have an absorption maximum at a wavelength longer than 405 nm. Saito never teaches an optical recording medium having a recording capacity of more than 15 GB per side. Saito never suggests an optical recording medium that uses an organic dye compound that shows an absorption maximum at a wavelength longer than the oscillation wavelength of a laser.

Claims 1, 2, 4, 5, 7-9, 11, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al. '494.

This rejection is respectfully traversed. As noted above, Saito never teaches or suggests the herein claimed subject matter. Therefore, it is respectfully submitted tat Saito '494 cannot possible render the present claims obvious.

Claims 1, 5, 8 and 12 are rejected under 35 U.S.C. 102(a) as being fully anticipated by Usami, JP 2001-307375.

This rejection is respectfully traversed.

Usami discloses an optical recording medium that uses an organic dye compound that has an absorption maximum at a wavelength shorter than the oscillation wavelength of a laser beam (please see paragraph 0010). In view of this, it is clear that the claims are not anticipated by Usami et al.

Claims 1, 2, 4, 5, 8, 9, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meada et al., JP 11-053758 in view of Kashiwagi et al., WO 99/00794.

This rejection is respectfully traversed. Meada clearly states that organic dyes (a) to (g) as shown below have an absorption maximum (λmax) generally in the range of 40 to 470 nm, and preferably applied in the case of a laser having an oscillation wavelength of 515 nm (please see paragraph 0012). It is clear that the absorption maxima of the dyes are shorter than the oscillation wavelength of the laser beam. In contrast thereto, the herein claimed medium uses an organic dye compound that has an absorption maximum at a wavelength **longer** than the oscillation wavelength of the laser. There is nothing in Meada that even suggests the herein claimed subject matter.

Kashiwagi adds nothing to Meada to render the present claims obvious. Kashiwagi merely discloses an optical recording medium having a track pitch of 0.64 microns. Even if one substituted the dyes of Meada in the optical recording

medium of Kashiwagi, the absorption maxima of the dyes would still be shorter than the oscillation wavelength of the laser beam, so this would be different from the herein claimed invention.

Claims 1-5, 7-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meada et al. in view of Kashiwagi et al. and further in view of Shinkai et al.'656.

This rejection is respectfully traversed. As noted above, combining Meada and Kashiwagi would not result in the presently claimed optical medium. Shinkai'656 adds nothing to the combination of Meada and Kashiwagi because Shinkai discloses an optical recording medium with dye B-3 which uses a laser having an oscillation wavelength of 780 nm both to write and to read information. The absorption maximum of dye B-3 is 575 nm (column 73, lines 18-20), which is shorter than the oscillation wavelength of the laser, unlike in the presently claimed optical recording medium. Thus, it is clear that Shinkai does not suggest the presently claimed invention wherein the absorption maximum of the dye is longer than the oscillation wavelength of the laser.

It is noted that the prior art made of record and not relied upon is merely considered pertinent to applicant's disclosure.

In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited.

Respectfully submitted,

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